

US EPA ARCHIVE DOCUMENT

Contents

Acknowledgments ix

Day One: Wednesday, September 11

Welcome and Introduction 1-1
Dr. Elizabeth Southerland and Dr. Thomas Armitage

BIOACCUMULATION OVERVIEW AND APPROACHES

Bioaccumulation Overview and Approaches 1-3

Contaminated Sediments:
State of the Science and Future Research Directions 1-5
Dr. Gilman D. Veith

Field and Laboratory Methods for Measuring Bioaccumulation 1-9

Dr. Peter Chapman, Moderator

Methods for Assessing Sediment Bioaccumulation
in Marine/Estuarine Benthic Organisms 1-11
Dr. Henry Lee II

Methods for Assessing Bioaccumulation of
Sediment-Associated Contaminants with Freshwater Invertebrates 1-25
Dr. Christopher G. Ingersoll

Kinetic Models for Assessing Bioaccumulation 1-47
Dr. Peter Landrum

Session One: Questions and Answers 1-51

Interpretation and Applications of Bioaccumulation Results 2-1

Dr. Richard Pruell, Moderator

Reference Sediment Approach for Determining Sediment Contamination 2-3
Mr. Norman I. Rubinstein

Development of Tissue Residue Threshold Values 2-9
Dr. David R. Mount

Use of Tissue Residue Data in Exposure and
Effects Assessments for Aquatic Organisms 2-21
Mr. L. Jay Field



Comments on the Significance and Use of
Tissue Residues in Sediment Toxicology and Risk Assessment 2-25
Dr. Lynn S. McCarty

Quantification of Ecological Risks to
Aquatic Biota from Bioaccumulated Chemicals 2-31
Mr. Burt K. Shephard

Session Two: Questions and Answers 2-53

Modeling Bioavailability of Sediment Contaminants 3-1

Mr. Nelson Thomas, Moderator

Equilibrium Partitioning and Organic Carbon Normalization 3-3
Dr. Dominic M. Di Toro

Estimating Bioaccumulation Potential in Dredged Sediment Regulation 3-7
Dr. Victor A. McFarland

Development of Bioaccumulation Factors for
Protection of Fish and Wildlife in the Great Lakes 3-19
Dr. Philip M. Cook

From Modeling to Criteria: Integrated Approach to Criteria Development 3-29
Ms. Mary C. Reiley

Session Three: Questions and Answers 3-33

Day Two: Thursday, September 12

Food Chain Models and Bioenergetics 4-1

Dr. Lawrence Burkhard, Moderator

Food Chain Models for Predicting Bioaccumulation 4-3
Dr. Frank Gobas

Use of Food Web Models to Evaluate Bioaccumulation Data 4-5
Dr. John P. Connolly

Bioaccumulation Modeling of PCBs
in the Hudson Estuary: A Review and Update 4-19
Dr. Robert V. Thomann

Session Four: Questions and Answers 4-23

BIOACCUMULATION AND RISK ASSESSMENT

Risk Assessment Overview 5-1
Dr. Dorothy Patton

Human Health-Based Risk Assessment 5-3

Dr. Marc Tuchman, Moderator

Methodology for Assessing Human Health-Based Risks 5-5
Dr. Judy L. Crane

Bioaccumulation Models and Applications:
 Setting Sediment Cleanup Goals in the Great Lakes 5-9
Ms. Amy Pelka

Use of Human Health- and Ecological-Based
 Goals in Developing a Whole River
 Sediment Strategy: Fox River, Wisconsin 5-31
Mr. Robert L. Paulson

Development of Health-Based Sediment Criteria for Puget Sound 5-35
Ms. Laura B. Weiss

Development of Bioaccumulation Guidance for
 Dredged Material Evaluations in EPA Region 2 5-47
Mr. Alex Lechich

Session Five: Questions and Answers 5-61

Ecological-Based Risk Assessment 6-1

Dr. James Andreasen, Moderator

Use of Bioaccumulation Data in Aquatic Life Risk Assessment 6-3
Dr. Wayne R. Munns, Jr.

Wildlife Risk Assessment 6-9
Dr. David Charters

Session Six: Questions and Answers 6-15

Day 3: Friday, September 13

BIOACCUMULATION RESULTS AND DECISION-MAKING

**Integrating Bioaccumulation Results into EPA’s
 Decision-Making Process 7-1**

Dr. Elizabeth Southerland, Moderator

Opening Remarks 7-3
Dr. Elizabeth Southerland

Bioaccumulation Testing and Interpretation for the Purpose of
 Sediment Quality Assessment: Status and Needs 7-5
Mr. Michael Kravitz

Panel Presentations 7-15

Bioaccumulation Results and Decision-Making:
The Superfund Program 7-17
Dr. Lawrence Zaragoza

Sediment Bioaccumulation—A National Pollutant Discharge
Elimination System (NPDES) Program Perspective 7-23
Mr. James Pendergast

Integrating Bioaccumulative Results into EPA’s Decision-Making Process 7-31
Mr. Thomas Murray

U.S. EPA/OPPT and Sediments: Screening New and Existing Chemicals for
Potential Environmental Effects 7-35
Dr. Maurice Zeeman

Dredged Material Management Program 7-49
Mr. Craig Vogt

Dredged Material Management: A Regional Perspective 7-51
Mr. Mario Del Vicario

Session Seven: Questions and Answers 7-53

Speakers’ Biographies 8-1

ATTACHMENTS

- Agenda
- List of Attendees

